

THE IBIS.

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I.—*On the Ornithology of Northern Borneo.* By R. BOWDLER SHARPE, F.L.S., F.Z.S., &c. *With Notes* by JOHN WHITEHEAD.—Part V.*

Order PSITTACI.

194. PALÆORNIS LONGICAUDA.

Palæornis longicauda (Bodd.); Salvad. Ucc. Born. p. 22; Sharpe, Ibis, 1877, p. 9; id. P. Z. S. 1879, p. 325; Brüggem. Abhandl. Bremen, v. p. 454; Blasius, Verh. zool.-bot. Ges. Wien, xxxiii. p. 23 (1883).

a. ♂ juv. Benkoka, Nov. 1, 1885.

[Common in the lower reaches of rivers, especially near the higher swampy growth.

I have seen these birds settle in large flocks in the high trees, and but for the continual shower of falling leaves, which they were nipping off, should not have known they were there. Not met with at any distance inland.

Native name "Bian."]

194 a. LORICULUS GALGULUS.

Loriculus galgulus (L.); Salvad. t. c. p. 26; Sharpe, Ibis, 1876, p. 36; id. P. Z. S. 1879, p. 325, 1881, p. 791; Brüggem. t. c. p. 454; Blasius, t. c. p. 24.

* Continued from 'The Ibis,' 1889, p. 443.

a. ♀ ad. Labuan, July 2, 1885.

b. ♀ ad. Sandakan, April 22, 1885.

[Common in Labuan, frequenting fruit-gardens.

Native name "Trepas."]

Order PICARLÆ.

Fam. TROGONIDÆ.

195. *HARPACTES WHITEHEADI*.

Harpactes whiteheadi, Sharpe, Ibis, 1888, p. 395, pl. xii.

a, b. ♂ ♀ ad. Kina Balu, March 19–24, 1888.

c. ♂ ad. Kina Balu, April 2, 1888.

[This beautiful Trogon was met with on my second expedition, at 4000 feet, where it frequented the dark and wet patches of old forest. These birds generally sit in the higher branches of the lower forest trees, and seldom move, except to take short flights from perch to perch. They generally keep their dull-coloured backs to the hunter, thus rendering themselves more like a bunch of dead leaves, for which they may often be mistaken. The plumage is so soft that if the birds fall from any height they are spoilt as specimens, bunches of feathers coming out of these soft "puff-balls."

On the 4th of April, whilst I was taking shelter from the rain under some palm-leaves, one of these Trogons settled on a tree quite close to me; it uttered every now and then a peculiar growling note, swaying its tail backwards and forwards, spreading out the feathers with each movement, and every now and then making a short flight to capture some insect, and settling on another perch.

The young birds in nestling-plumage are similar to the female, but there is little or no distinction in colour between the throat, breast, and the rest of the lower parts. The pencilling of the wing-coverts is not nearly so fine, the yellow and black stripes being broader. The colour of the back is not so bright, being mixed with greyish down. I have a young male, in which the crimson feathers of the back and breast are mixed with the brown nestling-plumage. The soft parts are as figured in 'The Ibis' (*l. c.*), having been taken from my sketches made from the freshly killed bird.

Native name for all Trogons "Burong angi," or the "Omen bird."]

196. *HARPACTES KASUMBA*.

Harpactes kasumba (Raffl.).

Pyrotrogon kasumba, Salvad. t. c. p. 29; Blasius, t. c. p. 24; Sharpe, P. Z. S. 1881, p. 791.

a. ♂ ad. Benkoka, Oct. 12, 1885.

197. *HARPACTES DIARDI*.

Harpactes diardi (T.); Sharpe, Ibis, 1879, p. 239; id. P. Z. S. 1881, p. 791.

Pyrotrogon diardi, Salvad. t. c. p. 29.

a. ♀ ad. Benkoka, Sept. 11, 1885.

b, c. ♂ ad. Benkoka, Oct. 1885.

198. *HARPACTES DUVAUCELI*.

Harpactes duvauceli (T.); Sharpe, Ibis, 1879, p. 239; id. P. Z. S. 1881, p. 792; Brüggem. t. c. p. 454.

Pyrotrogon duvauceli, Salvad. t. c. p. 29; Blasius, t. c. p. 25.

a. ♂ ad. Benkoka, Oct. 13, 1885.

b. ♀ ad. Benkoka, Nov. 5, 1885.

199. *HARPACTES ORESCIUS*.

Harpactes orescius (T.); Sharpe, Ibis, 1888, p. 395.

Orescius gouldi (Sw.); Salvad. t. c. p. 31.

a. ♂ ad. Kina Balu, Jan. 18, 1888.

b. ♂ ad. Kina Balu, Feb. 3, 1888.

c. ♂ ad. Kina Balu, April 19, 1888.

d. ♀ ad. Kina Balu, May 20, 1888.

A specimen in the British Museum was the sole authority for the occurrence of this species in Borneo before Mr. Whitehead's ascent of Kina Balu. The specimen in question was purchased at the sale of Baron Laugier's collection in 1837, and it is doubtful whether the locality is authentic; but Mr. Whitehead has now placed the Bornean habitat of the species beyond a doubt.

[Met with on Kina Balu, from 1000 to 3000 feet, but nowhere common, frequenting shady spots in old forest. I have noticed that all Trogons are more active in the early

morning and evening ; during the rest of the day they are seldom seen. Iris black ; gape cobalt-blue, darker at base of bill and on lower mandible ; skin round eye whitish blue, feet slaty blue. I procured a brown Trogon on Kina Balu on the 23rd of March, 1887, which is possibly the young of this species ; but the markings seem to me to be too coarse, and it may be the immature stage of some Trogon which inhabits the mountain and is yet undescribed.]

Fam. CAPITONIDÆ.

200. MEGALÆMA CHRYSOPSIS.

Megalæma chrysopsis, Goffin ; Sharpe, Ibis, 1877, p. 8.

Chotorhea chrysopsis (Goffin) ; Salvad. t. c. p. 32.

a. ♂ ad. Benkoka, Sept. 1, 1885.

b. ♂ juv. Benkoka, Sept. 22, 1885.

201. MEGALÆMA VERSICOLOR.

Megalæma versicolor (Raffl.) ; Sharpe, Ibis, 1876, p. 35 ;
id. P.Z.S. 1879, pp. 245, 326 ; id. Ibis, 1879, p. 239 ;
Brüggem. t. c. p. 454.

Chotorhea versicolor, Salvad. t. c. p. 33.

Chotorhea versicolor, var. *borneensis*, Blasius, t. c. p. 25.

a. ♀ ad. Lawas River, March 23, 1886.

b. ♂ ad. Lawas River, April 5, 1886.

[Iris and bill black ; feet dull greenish blue.]

202. MEGALÆMA MYSTACOPHANES.

Megalæma mystacophanus (T.) ; Sharpe, Ibis, 1876, p. 35,
1879, p. 239.

Chotorhea mystacophanus, Salvad. t. c. p. 34.

a. ♀ imm. Benkoka, Sept. 1, 1885.

b. ♂ ad. Benkoka, Sept. 5, 1885.

c, d. ♂ ad. et juv. Kina Balu, March 6, 1887.

e. ♀ juv. Kina Balu, Feb. 28, 1887.

f. ♀ juv. Kina Balu, March 19, 1888.

[The commonest Bornean Barbet, frequenting the higher branches of forest trees. I have often seen these birds holding on to a tree and pecking like a Woodpecker.

It has a peculiar note, which it utters when perched high up in the tree, " Pooh pooh lentogok lentogok."

Native name "Lentogok." Found on Kina Balu up to 3000 feet.]

203. *CYANOPS PULCHERRIMA*.

Megalæma pulcherrima, Sharpe, Ibis, 1888, p. 393, pl. xi. fig. 2.

a. ♀ ad. Kina Balu, Jan. 29, 1888.

b, c. ♂ ad. Kina Balu, Feb. 16, 20, 1888.

[I discovered this fine Barbet at 5000 feet in high forest, but it is, perhaps, more at home on the mountain at about 8000 feet. It has a hooting-note rather like that of the last species. An immature bird is of a much less vivid green, and has the blue on the throat and head duller and greener than in the adults, and the golden collar is absent. The soft parts were given in 'The Ibis' (*l. c.*).]

204. *CYANOPS MONTICOLA*.

Cyanops monticola, Sharpe, Ann. & Mag. Nat. Hist. (6) iii. p. 424 (1888).

a. ♂ ad. Kina Balu, March 24, 1888.

b. ♀ ad. Kina Balu, March 28, 1887.

[Met with on my first expedition at about 3000 feet, and again during my second at the same altitude. This bird at first sight bears a strong resemblance to the young of *M. mystacophanes*, so much so that it has remained nearly two years undescribed, though I had little doubt that it was a good species, the bill being quite distinct from that of *M. mystacophanes*, to say nothing of the colour. I was glad to find that Mr. Sharpe, at last, took my view as to its distinctness.]

205. *XANTHOLÆMA DUVAUCELI*.

Xantholæma duvauceli (Less.); Salvad. t. c. p. 38; Sharpe, Ibis, 1879, p. 240; id. P. Z. S. 1881, p. 792; Blasius, t. c. p. 26.

Megalæma duvauceli, Sharpe, Ibis, 1876, p. 35, 1877, p. 9; Brüggem. t. c. p. 454.

a, b. ♂ ♀ ad. Lawas River, Feb. 28, 1886.

c, d. ♂ ♀ ad. Lawas River, Feb. 26, 1886.

[Met with in numbers on some fruit-bearing forest trees. Iris and bill black; feet slaty green.]

206. *CALORHAMPHUS FULIGINOSUS*.

Calorhamphus fuliginosus (T.) ; Salvad. t. c. p. 39 ; Sharpe, Ibis, 1876, p. 34, 1877, p. 9, 1879, p. 240 ; id. P. Z. S. 1881, p. 792.

a. ♂ ad. Kina Balu, Feb. 15, 1887.

b. ♂ ad. Kina Balu, March 1887.

c, d. ♂ ♀ ad. Kina Balu, April 1888.

[Common, frequenting the lower slopes of Kina Balu up to 1000 feet. It is found in old forest in small flocks, feeding high in the trees.]

Fam. PICIDÆ.

207. *IYNGIPICUS AURANTIIVENTRIS*.

Iyngipicus aurantiiventris, Salvad. t. c. p. 41, tav. iv. fig. 2 ; Sharpe, Ibis, 1879, p. 240 ; id. P. Z. S. 1881, p. 792 ; Hargitt, Ibis, 1882, p. 29 ; Blasius, t. c. p. 27.

a. ♀ ad. Kina Balu, Feb. 13, 1887.

b. ♂ ad. Kina Balu, March 25, 1887.

c, d. ♂ ♀ ad. Kina Balu, April 15, 1888.

[Met with on Kina Balu from 2000 to 3000 feet, but by no means common. Seems to prefer the Casuarina trees. Iris white ; bill slaty blue ; feet dull green, soles yellow.]

208. *IYNGIPICUS AURITUS*.

Iyngipicus auritus (Eyton) ; Hargitt, Ibis, 1882, p. 42.

Iyngipicus fusco-albidus, Salvad. t. c. p. 42 ; Sharpe, P. Z. S. 1879, p. 326 ; id. Ibis, 1879, p. 240.

a, b. ♀ ad. Labuan, July 1885.

c. ♂ ad. Labuan, Dec. 15, 1885.

[Iris hazel ; bill and feet greyish black. Fairly common in Labuan, frequenting gardens and other open places. Nests in dead trees in the beginning of June.]

209. *XYLOLEPES VALIDUS*.

Xylolepes validus (Reinw.) ; Salvad. t. c. p. 43 ; Sharpe, Ibis, 1876, p. 36, 1877, p. 9, 1879, p. 240 ; id. P. Z. S. 1879, p. 326, 1881, p. 792 ; Blasius, t. c. p. 27.

a. ♂ ad. Benkoka, Sept. 15, 1885.

b. ♀ ad. Benkoka, Oct. 11, 1885.

[Iris dark lake.]

210. *HEMICERCUS SORDIDUS*.

Hemicercus sordidus (Eyton) ; Salvad. t. c. p. 46 ; Sharpe, Ibis, 1879, p. 240 ; Hargitt, Ibis, 1884, p. 247.

a. ♂ ad. Benkoka, Sept. 22, 1885.

b. ♂ ad. Benkoka, Nov. 2, 1885.

[Iris claret-colour ; bill and feet slaty black.]

211. *LEPOCESTES PORPHYROMELAS*.

Lepocestes porphyromelas (Boie) ; Salvad. t. c. p. 48 ; Sharpe, Ibis, 1877, p. 9, 1879, p. 242.

a. ♂ ad. Kina Balu, Feb. 21, 1887.

b. ♀ ad. Kina Balu, March 23, 1887.

[Reaches an altitude of 5000 feet on Kina Balu. Iris claret-colour ; bill straw-yellow ; feet greenish brown.]

212. *GECINUS PUNICEUS*.

Callolophus puniceus (Horsf.) ; Salvad. t. c. p. 49 ; Sharpe, Ibis, 1876, p. 36, 1879, p. 242 ; id. P. Z. S. 1881, p. 792 ; Blasius, t. c. p. 28.

Gecinus puniceus, Brüggem. t. c. p. 454 ; Hargitt, Ibis, 1888, p. 176.

a. ♂ ad. Kina Balu, March 27, 1888.

b. ♀ ad. Benkoka, Oct. 15, 1885.

[Found up to 2000 feet on Kina Balu. Iris claret-colour ; bare skin round eye pale blue ; upper mandible black, lower mandible straw-yellow ; feet brownish yellow.]

213. *CHRYSOPHLEGMA HUMII*.

Chrysophlegma humii, Hargitt, Ibis, 1889, p. 231.

Callolophus mentalis (T.) ; Salvad. t. c. p. 49 ; Sharpe, Ibis, 1877, p. 9, 1879, p. 242.

a, b. ♂ ♀ ad. Benkoka, Oct. 14, 1885.

c. ♂ ad. Lawas River, March 29, 1886.

d. ♀ ad. Kina Balu, March 14, 1887.

[Found up to 2000 feet on Kina Balu. Iris dark lake ; bill greyish blue ; feet dull green.]

214. *CHRYSOPHLEGMA MALACCENSE*.

Callolophus malaccensis (Lath.) ; Salvad. t. c. p. 50 ; Sharpe, Ibis, 1876, p. 35, 1879, p. 242.

Gecinus malaccensis, Brüggem. t. c. p. 454.

Chrysophlegma malaccense, Hargitt, Ibis, 1886, p. 276.

a. ♂ ad. Lawas River, April 9, 1886.

b. ♀ ad. Benkoka, Sept. 15, 1885.

[Iris dark lake.]

215. *ALOPHONERPES PULVERULENTUS*.

Alophonerpes pulverulentus (T.); Salvad. t. c. p. 51; Sharpe, P. Z. S. 1879, p. 326; id. Ibis, 1879, p. 242; id. P. Z. S. 1881, p. 792.

a. ♂ ad. Padas River, May 1, 1886.

b. ♂ ad. Lawas River, April 5, 1886.

c. ♀ ad. Benkoka, Sept. 27, 1885.

[Fond of frequenting forest on the borders of swamps. Iris black; feet and bill dull bluish white.]

216. *THRIPONAX JAVENSIS*.

Thriponax javensis (Horsf.); Salvad. t. c. p. 52; Sharpe, P. Z. S. 1879, p. 326; id. Ibis, 1879, p. 243; id. P. Z. S. 1881, p. 792; Hargitt, Ibis, 1885, p. 145; Blasius, t. c. p. 28.

a. ♂ ad. Benkoka, Oct. 25, 1885.

b. ♀ ad. Labuan, Dec. 13, 1885.

c. ♀ ad. Labuan, Aug. 10, 1885.

217. *TIGA JAVANENSIS*.

Tiga javanensis (Ljung.); Salvad. t. c. p. 54; Sharpe, Ibis, 1877, p. 9, 1879, p. 243; id. P. Z. S. 1879, p. 326, 1881, p. 792.

a, b. ♂ ♀ ad. Labuan, July 12, 1885.

[Most common near the coast. Iris black; bill bluish white; feet dull green.]

218. *GAUROPICOIDES RAFFLESII*.

Gauropicoides rafflesii (Vig.); Salvad. t. c. p. 54; Sharpe, 1879, p. 243.

Tiga rafflesii, Brüggem. t. c. p. 455.

a, b. ♂ ♀ ad. Kina Balu, May 6, 1888.

Reaches an elevation of 2000 feet on Kina Balu.

219. *MIGLYPTES GRAMMITHORAX*.

Miglyptes tristis (Horsf.); Salvad. t. c. p. 56; Sharpe, Ibis, 1876, p. 36, 1879, p. 243; id. P. Z. S. 1881, p. 792; Brüggem. t. c. p. 455; Blasius, t. c. p. 29.

Miglyptes grammithorax, Malh. ; Hargitt, Ibis, 1884, p. 191.

a. ♀ ad. Padas River, June 6, 1885.

[Iris lake ; feet dull greenish brown.]

220. MIGLYPTES TUKKI.

Miglyptes tukki (Less.) ; Salvad. t. c. p. 57 ; Sharpe, Ibis, 1876, p. 36, 1879, p. 243 ; id. P. Z. S. 1881, p. 792 ; Hargitt, Ibis, 1884, p. 193 ; Brüggem. t. c. p. 455 ; Blasius, t. c. p. 29.

a. ♂ ad. Kina Balu, Sept. 5, 1885.

[Iris dark lake ; bill greyish black ; feet brown.]

221. MICROPTERNUS BADIUS.

Micropternus badius (T.) ; Salvad. t. c. p. 58 ; Sharpe, Ibis, 1879, p. 243 ; id. P. Z. S. 1881, p. 792 ; Hargitt, Ibis, 1885, p. 6 ; Blasius, t. c. p. 30.

a, b. ♂ ♀ ad. Benkoka, Sept. 9, 1885.

222. SASIA ABNORMIS.

Sasia abnormis (T.) ; Salvad. t. c. p. 60 ; Sharpe, Ibis, 1889, p. 243 ; Brüggem. t. c. p. 455.

a. ♂ ad. Kina Balu, March 25, 1887.

b. ♂ ad. Kina Balu, Jan. 13, 1888.

[This peculiar little bird is found sparingly in old forest, where it frequents the smaller trees and low growth. Reaches up to 1000 feet on Kina Balu. Iris lake-red ; bare skin on face dull pink ; bill black ; feet orange-brown. Native name "Tickbaden."]

Fam. INDICATORIDÆ.

223. INDICATOR ARCHIPELAGICUS.

Indicator archipelagicus, T. ; Salvad. t. c. p. 61 ; Sharpe, Ibis, 1877, p. 8, 1879, p. 244.

a. ♂ ad. Benkoka, Sept. 22, 1885.

Fam. CUCULIDÆ.

224. CHRYSOCOCCYX XANTHORHYNCHUS.

Chrysococcyx xanthorhynchus (Horsf.) ; Salvad. t. c. p. 62 ; Sharpe, P. Z. S. 1879, p. 327, 1881, p. 792.

Cuculus xanthorhynchus, Sharpe, Ibis, 1879, p. 244.

a. ♀ ad. Abai, Dec. 29, 1887.

[Not common in Northern Borneo, where it frequents the tops of the highest trees, making it difficult to obtain specimens. Its note is "Kievik, kievik," by which name the natives call it. Iris lake; bare skin round eye and bill vermilion; feet dull green; bill in the female dark brown, more reddish at base.]

225. *SURNICULUS LUGUBRIS*.

Surniculus lugubris (Horsf.); Salvad. t. c. p. 63; Sharpe, Ibis, 1877, p. 8, 1879, p. 244; id. P. Z. S. 1879, p. 328, 1881, p. 792; Blasius, t. c. p. 30.

a, b. ♂ ♀ ad. Lawas River, April 5, 1886.

c. ♂ ad. Kina Balu, March 1887.

[I met with this species in numbers on the Lawas River: they frequent the tops of low trees, and utter a loud whistling note. Iris hazel; feet and bill black.]

226. *PENTHOCERYX PRAVATUS*.

Penthoceryx pravatus (Horsf.); Salvad. t. c. p. 63; Sharpe, Ibis, 1879, p. 244.

a. ♂ ad. Benkoka, Sept. 21, 1885.

227. *CACOMANTIS MERULINUS*.

Cacomantis merulinus (Scop.); Salvad. t. c. p. 64; Sharpe, Ibis, 1876, p. 34, 1877, p. 7, 1879, p. 244; id. P. Z. S. 1879, p. 328, 1881, p. 792.

a. Ad. Labuan, May 1886.

228. *HIEROCOCCYX FUGAX*.

Hierococcyx fugax (Horsf.); Salvad. t. c. p. 65; Sharpe, Ibis, 1877, p. 7, 1879, p. 245.

a, b. ♂ ad. Kina Balu, April 1888.

c. ♂ ad. Kina Balu, April 26, 1888.

d. ♀ juv. Kina Balu, April 23, 1888.

[Met with on Kina Balu, about 3000 feet. I found this species laying in the nest of *Culicicapa ceylonensis*, on the 29th April. The egg was creamy white, slightly spotted with pale yellowish brown and grey, forming a complete zone at the larger end: axis 0.9 inch, diam. 0.65. Iris and bill light brown; feet and skin round eye bright yellow; base of bill yellowish green.]

229. *HIEROCOCCYX NANA*.

Hierococcyx nanus, Hume, Str. F. v. p. 490 (1877).

a. ♀ ad. Benkoka, Nov. 2, 1885.

The first recorded occurrence of this species in Borneo. The specimen has been identified by Captain Shelley.

[Only one specimen seen. Iris black; skin round the eye bright straw-yellow; feet king's yellow.]

230. *HIEROCOCCYX BOCKI*.

Hierococcyx bocki, Wardlaw-Ramsay, Ibis, 1886, p. 157; Sharpe, Ibis, 1888, p. 394.

a. ♂ ad. Kina Balu, Feb. 28, 1888.

b, c. ♂ ♀ ad. Kina Balu, March 1888.

d. ♂ ad. Kina Balu, April 20, 1888.

The occurrence of this species on Kina Balu is interesting, as showing a very distinct relation between the avifauna of the mountain and that of High Sumatra.

[This rare Cuckoo frequented Kina Balu at about 4000 feet. It was evidently the pairing-season in March, as they were then very noisy, whistling a good deal in the tops of the trees, especially towards evening.]

231. *HIEROCOCCYX SPARVERIODES*.

Hierococcyx strenuus, Sharpe, P. Z. S. 1879, p. 327.

a. Juv. Labuan, Nov. 7, 1887.

[One specimen shot, evidently on migration. Iris light brown; feet and skin round eye pale yellow.]

232. *CUCULUS MICROPTERUS*.

Cuculus micropterus, Gould; Oates, Handb. B. Burm. ii. p. 104 (1883).

a. ♂ ad. Lawas River, March 29, 1886.

b. ♂ ad. Lawas River, April 7, 1886.

[Apparently new to Borneo. Only two specimens seen, frequenting the banks of the river. This species has a loud whistling note. Iris black; skin round eye bright yellow.]

233. *CUCULUS POLIOCEPHALUS*.

Cuculus poliocephalus, Lath. Ind. Orn. i. p. 214; Sharpe, Ibis, 1879, p. 394.

? *Cuculus himalayanus*, Sharpe, P. Z. S. 1879, p. 327.

a, b. ♂ ♀ ad. Kina Balu, Feb. 1888.

c. ♀ ad. Kina Balu, March 13, 1888.

[This Cuckoo frequented the higher ranges of Kina Balu up to 9000 feet, and I saw one specimen much higher. The note is exactly like that of *Cyanops pulcherrima*, and I have often stalked the supposed Barbet and shot a Cuckoo. Iris brown; legs, gape, and skin round eye king's yellow.

I have a young bird which has the throat and upper part of the breast rich brown instead of grey like the adults. There is a ring of brown round the back of the neck. The wing-feathers and back are also much barred with the same colour.]

234. COCCYSTES COROMANDUS.

Coccytes coromandus (L.) ; Salvad. t. c. p. 67.

a. ♀ ad. Labuan, Dec. 29, 1885.

[Apparently rare. I have only met with two specimens during my visit to Borneo.]

235. EUDYNAMIS MALAYANA.

Eudynamis malayana, Cab. & Heine, Salvad. t. c. p. 68; Sharpe, Ibis, 1876, p. 34, 1879, p. 245; id. P. Z. S. 1879, p. 328.

a. ♂ ad. Labuan, Nov. 30, 1885.

236. RHOPODYTES ERYTHROGNATHUS.

Rhopodytes erythrognaethus, Sharpe, Ibis, 1877, p. 8; id. P. Z. S. 1879, p. 246; id. Ibis, 1879, p. 245; id. P. Z. S. 1881, p. 793.

Rhamphococcyx erythrognaethus (Hartl.) ; Salvad. t. c. p. 74.

Phaeniphaes erythrognaethus, Brüggem. t. c. p. 455.

a. ♂ ad. Kina Balu, April 1888.

b. ♂ ad. Kina Balu, March 15, 1888.

[Common throughout Northern Borneo, ranging on Kina Balu up to 1000 feet. They frequent the lower branches of high and the tops of low trees, especially where the jungle is thick and tangled. They hop slowly through the jungle, the tail being kept horizontal with the body. Iris king's yellow; upper mandible and half the lower one pea-green,

the rest dull reddish; feet dull leaden blue; bare skin on face scarlet.

Native name "Nampak."]

237. RHINORTHA CHLOROPHÆA.

Rhinortha chlorophæa (Raffl.); Salvad. t. c. p. 69; Sharpe, Ibis, 1876, p. 34, 1879, p. 245, 1881, p. 792; Brüggem. t. c. p. 455; Blasius, t. c. p. 32.

a. ♂ ad. Benkoka, Sept. 5, 1885.

b. ♀ ad. Kina Balu, April 1, 1887.

[In habits similar to *Rhopodytes erythrognathus*, with the same peculiar quiet and skulking manner. Iris dark brown; bill pea-green; bare skin on face emerald-green; feet dull cobalt-blue.]

238. POLIOCOCCYX SUMATRANUS.

Rhopodytes sumatranus (Raffl.); Salvad. t. c. p. 73; Sharpe, Ibis, 1879, p. 245; Blasius, t. c. p. 32.

Zanclostomus sumatranus, Brüggem. t. c. p. 455.

[I also saw this species at Abai, frequenting a patch of jungle on the coast, but did not obtain a specimen.]

239. ZANCLOSTOMUS JAVANICUS.

Zanclostomus javanicus (Horsf.); Salvad. t. c. p. 75; Sharpe, Ibis, 1879, p. 245; id. P. Z. S. 1881, p. 793; Blasius, t. c. p. 33.

a. ♂ ad. Kina Balu, March 1887.

[Not so common as the last two species, though similar in habits. This bird has a higher range than the last two species, for I met with one on Mt. Ophir, in Malacca, at 3000 feet. This species has a peculiar note like "kick kick." Iris black; bill coral-red; feet brownish black.]

240. CENTROCOCCYX EURYCERCUS.

Centrococcyx eurycercus (Hay); Salvad. t. c. p. 78; Sharpe, Ibis, 1877, p. 8; id. P. Z. S. 1879, p. 328, 1880, p. 793; Blasius, t. c. p. 39.

a, b. ♂ ♀ ad. Labuan, Jan. 1886.

c, d. ♂ ♀ ad. Labuan, June 1886.

[This large and powerful Cuckoo frequents the small

tangled patches of forest, being rarely met with in the larger stretches of old forest. The natives say that it often feeds upon flesh, killing and eating birds that have been snared, if left long in the traps. I have no doubt that it would take the young from nests, and have watched two little Flycatchers (*Rhipidura javanica*) very busy attacking and trying to drive this Cuckoo from a tree where they probably had a nest.

The note is loud, "būh būh," uttered many times, as the bird sits, generally towards the evening, in some prominent position.

Native name "Bubut," probably from the note.

Iris, feet, and bill black.]

241. *CENTROCOCCYX JAVANENSIS*.

Centrococcyx javanensis (Dumont.) ; *Salvad. t. c.* p. 76 ; Sharpe, *Ibis*, 1876, p. 34.

Centropus javanensis, Sharpe, *P. Z. S.* 1879, p. 328 ; *id.* *Ibis*, 1879, p. 246.

a. ♀ imm. Labuan, May 1885.

b. Juv. Labuan, Aug. 18, 1885.

[This species, unlike the last, is seldom seen except in the "llang"-grass plains near the edges of clearings.

This Cuckoo may often be turned up in the coarse grass plains within a few yards, when it rises with a slow flapping flight, often soaring long distances, seldom more than a few feet above the grass, and then dropping suddenly out of sight.

It is plentiful in Labuan, and, like *C. eurycercus*, is most often heard towards evening as it perches on some low post or bunch of beaten-down grass.

I had an egg given me, supposed to be of this species, which was white ; it was found on the ground under some tangled growth.

Native name "Bubut."

Iris brown ; bill and feet black.]

Fam. BUCEROTIDÆ.

242. *BUCEROS RHINOCEROS*.

Buceros rhinoceros, L. ; Sharpe, *Ibis*, 1879, p. 246 ; Elliot, *Monogr. Bucerot.* pl. iv.

Buceros rhinocerosoides (T.) ; Salvad. t. c. p. 87.

a. ♂ ad. Benkoka, Oct. 6, 1885.

[Iris dark lake ; bill red and yellow ; feet dull yellow.

This large Hornbill is fairly common, frequenting the high fruit-bearing forest trees. I have seen eleven flying in one flock, when they could be heard a great distance off, the noise they make with their wings being very loud.

Native name "Sungung."]

243. RHINOPLAX VIGIL.

Rhinoplax vigil (Forst.) ; Elliot, Monogr. Bucerot. pl. x. ; Sharpe, Ibis, 1879, p. 248.

Rhinoplax scutatus (Bodd.) ; Salvad. t. c. p. 88.

a. Ad. Benkoka, Oct. 9, 1885.

[Fairly common in most old forests, frequenting the tops of high trees. It utters a loud deep cry, "Lentodoon" (from which it gets its native name), and then goes off into a fit of laughter, which may be heard at a great distance.

I saw them on Kina Balu up to 3000 feet.

The native idea is that the heavy knob on the bill is used for hammering the gutta and gum round the hole when it closes up the female in the nest.]

244. ANTHRACOCEROS CONVEXUS.

Anthracoceros convexus (T.) ; Sharpe, P. Z. S. 1879, p. 329 ; id. Ibis, 1879, p. 246 ; Elliot, Monogr. Bucerot. pl. xii.

Hydrocissa convexa (T.) ; Salvad. t. c. p. 80 ; Sharpe, Ibis, 1877, p. 7, 1879, p. 246.

a, b. ♂ ♀ . Labuan, May 28, 1885.

c. ♀ juv. Pulo Gaya Island.

[Young birds have the bill dull pea-green ; feet dull cobalt ; eye not so dark as the old birds.

Adults have the bill light yellow, with a black mark on end of casque ; eye lake ; skin at base of bill light blue.

Common on most small islands near the sea-coast ; I have never met with this Hornbill far inland. It has a curious screaming cry, which is frequently uttered.

Native name "Lēkup."]

245. ANTHRACOCEROS MALAYANUS.

Anthracoceros malayanus (Raffl.); Elliot, Monogr. Bucerot. pl. xv.

Hydrocissa malayana (Raffl.); Salvad. t. c. p. 83.

Hydrocissa albirostris (Shaw); Sharpe, Ibis, 1879, p. 246.

a, b. ♂ ♀. Benkoka, Oct. 2, 1885.

c. ♂. Kina Balu, April 20, 1887.

[♂. Bill white; feet black; iris dark lake.

♀. Bill, iris, and feet black.

Fairly common in old forest. Met with on Kina Balu at 1000 feet. The small black-billed bird is doubtless the hen of the white-billed bird, as they are generally seen together, and the sexing also proves it.]

246. ANORRHINUS COMATUS.

Anorrhinus comatus (Raffl.); Elliot, Monogr. Bucerot. pl. xxxix.

a. ♂ ad. Benkoka River, Sept. 12, 1885.

b. ♀. Benkoka River, Nov. 13, 1885.

Recorded from Borneo for the first time.

[Iris dull greenish yellow; skin on face pale cobalt; bill white, blackish at tip; feet black.

Met with in a forest on the Benkoka River. Unlike the other species mentioned, this Hornbill frequently settles on the ground.

Some birds have white and others black tails. This is apparently only a difference of age, as the British Museum contains Malayan specimens with black and with white tails from the same locality.]

247. ANORRHINUS GALERITUS.

Anorrhinus galeritus (T.); Salvad. t. c. p. 79; Sharpe, Ibis, 1879, p. 246; id. P. Z. S. 1881, p. 793; Elliot, Monogr. Bucerot. pl. 42.

a. Ad. Kina Balu, April 23, 1887.

b. Ad. Sandakan, April 14, 1885.

c, d. ♀ ♀ ad. Benkoka, Oct. 11, 1885.

Adult. Iris lake; bill black, sometimes white-striped; feet black; skin on face pale blue.

Jr. Iris blue; bill dull red at tip, pea-green at base; skin on face bright king's yellow.

[Fairly common. Also occurs on Kina Balu up to 1000 feet. I found a nest of this species in an old tree, the female and a young one being securely fastened in by gums and resins. The curious part, however, was that there were no less than five other Hornbills feeding her, including males and females. I shot three birds at the tree on the first day, before I discovered the nest, which had evidently been used many times, judging by the excrement at the foot of the tree; and on the following day there were two other birds feeding the imprisoned hen. The Hornbills build up the hen in a tree, leaving only a small hole through which to feed her: this is done for defensive purposes against large tree-lizards and monkeys.

The young bird taken was well feathered and lived a long time, feeding voraciously on boiled rice and fruit; but the little fellow made such an incessant noise (like a wet cork rubbed on a bottle) that I had frequently to send him to some distance from my hut. This one day caused his death, through my boy putting the basket in a place where the bird got too much sun, which killed it. The hen bird was so weak after her imprisonment that for a long time she was unable to fly. The curious change of colour in the soft parts which the young bird undergoes before becoming adult is interesting.]

Fam. MEROPIDÆ.

248. MEROPS SUMATRANUS.

Merops sumatranus, Raffl.; Sharpe, P. Z. S. 1879, p. 329; id. Ibis, 1879, p. 248; id. P. Z. S. 1881, p. 793.

Merops bicolor, Salvad. t. c. p. 90; Sharpe, Ibis, 1876, p. 33, 1877, p. 5.

a, b. ♂ ♀ ad. Abai, March 2, 1888.

c. ♂ ad. Benkoka, Oct. 21, 1885.

[Fairly common in open places. In habits similar to all the rest of the family. Nests in holes in the ground, laying

four or five round white eggs about the beginning of June. Axis 0·95 inch, diam. 0·9.

Native name "Tampa-Kuro."]

249. NYCTIORNIS AMICTA.

Nyctiornis amicta (T.) ; Salvad. t. c. p. 91 ; Sharpe, Ibis, 1877, p. 6, 1879, p. 248 ; id. P. Z. S. 1881, p. 793.

a. ♂ ad. Kina Balu, April 1888.

b. ♂ ad. Benkoka, Sept. 14, 1885.

[Fairly common, frequenting high forest, where it sits solitary on the lower boughs of trees, making short flights after insects. It has a peculiar loud cry which I have often mistaken for the cackling of geese, wondering where the latter could be, and quite expecting to see some in one of the native campougs. Native name "Darah leihier," *i. e.* "blood-neck." Iris straw-yellow.]

Fam. ALCEDINIDÆ.

250. ALCEDO BENGALENSIS.

Alcedo bengalensis, Gm. ; Salvad. t. c. p. 92 ; Sharpe, Ibis, 1877, p. 6 ; id. P. Z. S. 1879, p. 329.

a. ♀ ad. Benkoka, Sept. 12, 1885.

[Only a winter visitor to Borneo, arriving in Palawan on its way south about the middle of September. Native name "Mantis."]

251. ALCEDO MENINTING.

Alcedo meninting, Horsf. ; Salvad. t. c. p. 93 ; Sharpe, P. Z. S. 1879, p. 329 ; id. Ibis, 1879, p. 248.

a, b. ♂ ♀ ad. Labuan, Dec. 1885.

c. ♂ juv. Labuan, May 1886.

d. ♀ ad. Benkoka, Oct. 19, 1885.

[Fairly common about large rivers near the sea-coast.]

252. ALCEDO EURYZONA.

Alcedo euryzona, T. ; Salvad. t. c. p. 95 ; Sharpe, Ibis, 1879, p. 248.

a, b. ♂ ♀ ad. Kina Balu, March 1887.

c, d. ♂ ♀ ad. Kina Balu, April 12, 1888.

[Iris dark hazel. In the female the upper mandible is

black, the lower one dull vermilion; feet also vermilion. The young male has the bill black, with a pinkish tinge; feet dull black. Met with sparingly on the rocky streams which come from Kina Balu.

At one of my camps a pair used to pass up-stream in the dusk of early morn, piping as they flew. In an hour or so the birds would return down-stream, flying a few feet above the water and cutting off bends by going into the forest. They were very shy, and it was a long time before I obtained a specimen.]

253. *PELARGOPSIS LEUCOCEPHALA*.

Pelargopsis leucocephala (Gm.); Salvad. t. c. p. 95; Sharpe, Ibis, 1876, p. 33, 1879, p. 249; id. P. Z. S. 1879, p. 329, 1881, p. 793.

a. ♀ ad. Lawas River, April 16, 1886.

b. ♂ ad. Benkoka, Nov. 20, 1885.

[Iris black; bill and feet coral-red.]

Common on the tideways of rivers, and I do not think it goes for any great distance inland from the coast. It has a disagreeable harsh note, which it utters when perched, stretching out its neck and cocking its tail to give full force to its music. I watched one of these birds in Palawan which had perched on the top of a tree, making flights at some fishes swimming on the surface some distance out at sea.]

254. *CEYX DILLWYNNI*.

Ceyx dillwynni, Sharpe; Salvad. t. c. p. 99; Sharpe, Ibis, 1879, p. 249; id. P. Z. S. 1879, p. 330, 1881, p. 793.

a. ♂ ad. Lawas River, April 5, 1886.

b, c. ♂ ♀ ad. Sandakan, April 24, 1885.

d. ♂ ad. Kina Balu, Aug. 20, 1887.

[Iris black; feet and bill coral-red.]

Common. Often will the traveller see a small bright yellow bird pass him in the forest like a little express train, whistling as though it were important to let every one know it was coming. Then suddenly the whistling ceases and the bird has perched, often at some distance away, where it sits motionless until again disturbed. It often frequents small

forest-streams, but I should doubt if it ever feeds on fish. This is one of the Bornean "Burong angi," or "omen birds." Met with on Kina Balu up to nearly 3000 feet.

On the 5th April I found a nest of this Kingfisher which was in a hole in a bank in the forest ; it contained two eggs, which were nearly hatched. The whole nest was swarming with ants. Egg white ; axis 0·9, diam. 0·75. I have often noticed that when large forest-trees become uprooted, and have a large quantity of earth held by the roots, the earth has been bored for nesting-holes, probably by this bird.]

255. HALCYON COROMANDA.

Halcyon coromanda (Lath.) ; Sharpe, Ibis, 1879, p. 249 ; id. P. Z. S. 1879, p. 331, 1881, p. 793.

Callialcyon coromanda, Salvad. t. c. p. 101.

a, b. ♂ ♀ ad. Labuan, May 1886.

c. Juv. Labuan, May 1886.

[A swamp-loving species, frequenting the beds of "Nippa" palms near the coast.]

256. HALCYON PILEATA.

Halcyon pileata (Bodd.) ; Sharpe, Ibis, 1876, p. 33, 1879, p. 249 ; id. P. Z. S. 1879, p. 331.

Entomobia pileata, Salvad. t. c. p. 102.

a. ♂ ad. Lawas, April 5, 1886.

[Iris black ; feet and bill coral-red.

A winter migrant to Borneo, arriving in Palawan on its way south about the 24th September. It frequents the open patches of swamp-rice, perching on the forest-trees which surround them, making short flights at anything that it can see in the swamp around.]

257. HALCYON CHLORIS.

Halcyon chloris (Bodd.) ; Sharpe, P. Z. S. 1879, pp. 246, 332, 1881, p. 793.

Sauropatis chloris, Salvad. t. c. p. 103.

a. ♂ ad. Labuan, July 5, 1885.

[Iris dark brown ; upper mandible black, lower one dull white ; feet dull pink.]

Common along the sea-coast, perching on some elevated spot, from which it makes short darting flights on its prey, which is exposed at low tide. This bird has a peculiar harsh cry, which is "Kang kang." The head is thrust forward and the tail cocked at right angles to the back. They nest in holes in trees, and are generally met with in pairs. Native name "Kang kang."]

258. HALCYON CONCRETA.

Halcyon concreta (T.) ; Sharpe, P. Z. S. 1881, p. 793.

Caridagrus concreta, Salvad. t. c. p. 102.

a. ♀ ad. Benkoka, Sept. 13, 1885.

b. ♂ ad. Benkoka, Oct. 10, 1885.

c. ♀ ad. Benkoka, Oct. 22, 1885.

[Met with in true forest, where it sits motionless on some branch, generally only a few feet from the ground. Iris black ; bill king's yellow ; feet paler yellow.]

259. CARCINEUTES MELANOPS.

Carcineutes melanops (T.) ; Sharpe, Ibis, 1879, p. 249 ; id. P. Z. S. 1881, p. 793.

Lacedo melanops, Salvad. t. c. p. 104.

a, b. ♂ ad. Benkoka, Oct. 1885.

c. ♀ ad. Benkoka, Oct. 12, 1885.

d. ♀ ad. Kina Balu, March 1887.

[Fairly common, frequenting true forest. Met with on Kina Balu up to 2000 feet. Iris stone-grey ; bill coral-red ; feet dull yellow.]

Fam. CORACIIDÆ.

260. EURYSTOMUS ORIENTALIS.

Eurystomus orientalis (L.) ; Salvad. t. c. p. 105 ; Sharpe, Ibis, 1877, p. 7, 1879, p. 249 ; id. P. Z. S. 1879, p. 332, 1881, p. 793.

a. ♂ ad. Lawas River, April 9, 1886.

b. ♀ ad. Kina Balu, April 1888.

c. ♀ ad. Kina Balu, March 14, 1888.

[Iris dark hazel ; feet and bill orange-red. Common, frequenting open places, especially dead trees that have been

left standing after forest fires. It perches on some high branch, from which it makes short flights at insects, returning often to the same perch.

The note is "Kick kick," sounding somewhat like the noise made by coachmen to horses.

Native name "Lahi."]

Fam. CAPRIMULGIDÆ.

261. CAPRIMULGUS MACRURUS.

Caprimulgus macrurus, Horsf. ; Salvad. t. c. p. 117 ; Sharpe, P. Z. S. 1879, p. 332 ; id. Ibis, 1879, p. 250.

Caprimulgus salvadorii, Sharpe, Ibis, 1877, p. 4.

a. ♀ ad. Kina Balu, April 1888.

b. ♂ ad. Abai, Dec. 11, 1886.

c. ♂ ad. Labuan, Aug. 14, 1888.

[Common in open places and on the edges of forest. In the evenings it may be seen on Labuan plain in numbers sitting on the ground, making short flights from place to place. The name of "Ice-bird" mentioned in Jerdon, and derived from its peculiar note, which sounds exactly like a stone thrown on thick ice, is the best description of the sound it utters. It is met with on Kina Balu up to 2000 feet. It generally nests in open places, and I have seen a nest on the sea-shore under the shelter of a tree just above high-water mark. The eggs are two in number, laid in April and other months, of a pale creamy yellow, with a slight pinkish tinge, blotched all over with pale grey, and less so with pale brown. None of these spots and blotches are distinct. Axis 1.25, diam. 0.9. Native name "Tampa-Kampa."

There is another species of *Caprimulgus* in Borneo which I failed to obtain, but which is, I believe, *Lyncornis temmincki*, a species common in Malacca, but only observed by myself about the foot of Kina Balu. This species has a very peculiar habit of flying high in the heavens just as the last rays of the setting sun are fading away, with wings held well above the body, uttering a pretty whistling note "Teta bōw, teta bōw." This Nightjar may be seen by the dozen exactly at 6.10 p.m. So well timed was their flight that I could set my watch by

them. After ten minutes' flight the bird comes to the earth, and may be seen flitting over the rice-fields, now and then soaring up after some insect, often settling on some dead branch or post, where its pretty note becomes changed to a frog-like croak. A few minutes before sunrise the bird takes another flight high in the sky, and "Teta bōw" may be heard for a few minutes, when it drops to the earth, on which it rests, remaining silent and sleepy during the heat of the day until a few minutes past 6 P.M.]

Fam. CYPSELIDÆ.

262. CYPSELUS INFUMATUS.

Cypselus infumatus, Scl.; Salvad. t. c. p. 119; Sharpe, P. Z. S. 1879, p. 333.

a, b. ♂ ♀ ad. Kina Balu, Jan. 18, 1888.

[Fairly common.]

263. COLLOCALIA FUCIPHAGA.

Collocalia fuciphaga (Thunb.); Salvad. t. c. p. 120.

a. ♂ ad. Lawas River, July 13, 1885.

264. COLLOCALIA LINCHI.

Collocalia linchi, Horsf. & Moore; Salvad. t. c. p. 121; Sharpe, Ibis, 1879, p. 250; id. P. Z. S. 1881, p. 793.

a, b. ♂ ad. Kina Balu, March 2, 1887.

[Very plentiful wherever the rocks form small caves suitable for nesting in. The nests of this species are composed almost entirely of moss, a little saliva being used to fasten the structure to the rock. Eggs two, small, white, very often misshapen; laid in February. Axis 0·7, diam. 0·45.]

265. DENDROCHELIDON COMATA.

Dendrochelidon comata (T.); Salvad. t. c. p. 123; Sharpe, P. Z. S. 1879, p. 334; id. Ibis, 1879, p. 250.

Macropterus comatus, Sharpe, Ibis, 1876, p. 33.

a, b. ♂; *c.* ♀ ad. Lawas River, April 4, 1886.

[Only met with on the Lawas, where they frequented some dead trees at the water's edge.]

266. *DENDROCHELIDON LONGIPENNIS*.

Dendrochelidon longipennis (Rafin.) ; Salvad. t. c. p. 122 ; Sharpe, P. Z. S. 1879, pp. 246, 334 ; id. Ibis, 1879, p. 250.

Macropteryx longipennis, Sharpe, Ibis, 1876, p. 33.

a. ♂ ad. Benkoka, Sept. 15, 1885.

b. ♀ ad. Labuan, Aug. 19, 1885.

[This beautiful Swift is a common species, especially where the country is fairly open and old dead trees remain : these are its favourite perches.]

267. *CHÆTURA CORACINA*.

Chætura coracina (S. Müll.) ; Salvad. t. c. p. 124 ; Sharpe, P. Z. S. 1879, p. 335.

a. Ad. Pulo Gaya.

[Rather a local species, frequenting the vicinity of forests. I have noticed this Swift entering holes in trees, where no doubt they nest.]

268. *HIRUNDINAPUS GIGANTEUS*.

Several times seen flying high in Labuan.

[To be continued.]

II.—On the supposed Occurrence of *Strix parvissima*, Ellman, in New Zealand. By W. W. SMITH.

SIR WALTER BULLER, in concluding the histories of *Spiloglaux novæ-zealandiæ* and *Sceloglaux albifacies* (B. of N. Z. 2nd ed. vol. i. p. 205, 1888), writes: "The two forms of Strigidæ described above are the only ones inhabiting New Zealand of which we have, as yet, any positive knowledge." In a footnote on the same page, Sir Walter quotes from 'Out in the Open,' a series of papers by the late Mr. T. H. Potts, which have been published in several journals. Mr. Potts, referring to the occurrence of a "very small Owl" in New Zealand, says, "From the information that has been gleaned about this rare bird, it would appear that one of its habitats used to be the woods about the Rangitātā River; one was captured with the hand on the bank of a creek at no great distance from Mount-Peel forest." Having